



Translation

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference H 05440 PCT	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP2003/006498	International filing date (<i>day/month/year</i>) 20 June 2003 (20.06.2003)	Priority date (<i>day/month/year</i>) 27 June 2002 (27.06.2002)
International Patent Classification (IPC) or national classification and IPC C11D 3/48, 1/94, C11D 1/72, 1/66, 1/90, 1/40, 1/52, 1/62		
Applicant ECOLAB INC.		

- This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 7 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of _____ sheets.

- This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 21 January 2004 (21.01.2004)	Date of completion of this report 24 September 2004 (24.09.2004)
Name and mailing address of the IPEA/EP Facsimile No.	Authorized officer Telephone No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/EP2003/006498

I. Basis of the report

1. With regard to the elements of the international application:*

- ☒ the international application as originally filed
- ☒ the description:
pages _____ 1-9 _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☒ the claims:
pages _____ 1-13 _____, as originally filed
pages _____, as amended (together with any statement under Article 19
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☐ the drawings:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☐ the sequence listing part of the description:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/EP 03/06498

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims		YES
	Claims	1-13	NO
Inventive step (IS)	Claims		YES
	Claims	1-13	NO
Industrial applicability (IA)	Claims	1-13	YES
	Claims		NO

2. Citations and explanations

1. The following documents, already cited in the written opinion of 13 April 2004, have been taken into consideration:

D1: US-A-5 856 290 (VAN BUSKIRK ET AL)

5 January 1999 (1999-01-05)

D2: DE 196 15 286 A (HENKEL KGAA)

23 October 1997 (1997-10-23).

2. Interpretation of the claims

- 2.1 The aqueous disinfectant of the present claim 1 contains:

0.1 to 10 wt.% of a surfactant system comprising nonionic and amphoteric surfactants,

an antimicrobial active ingredient with amino groups; and

a further antimicrobial active ingredient.

- 2.2 Surfactants have a general tendency to produce foam, but the applicant does not in any way restrict the application to surfactant systems in which foaming

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is actually caused by contact with amines. It can be seen from the examples that only one surfactant system, comprising fatty alcohol ethoxylate, alkyl polyglycoside and betaine (see tables 1 and 4 on pages 7 and 9) could give rise to this effect.

2.3 Moreover, the application is in no way restricted to components of a disinfectant that have synergistic activity. There is no evidence of any synergistic interaction between a antimicrobial active ingredient with amino groups in combination with each further antimicrobial active ingredient. According to table 2 on page 8, both mixture E1 (with ethanol and 2-propanol) and mixture 2 (with dimethyl-alkyl-(C12-C14)-benzyl-ammonium-chlorides, glucoprotamine, ethanol and 2-propanol) show an excellent antimicrobial effect. Although mixture E2 has a greater antimicrobial effect than mixture E1, the above improvement cannot be ascribed, on the basis of said comparison, to the use of glucoprotamine with dimethyl-alkyl-(C12-C14)-benzyl-ammonium-chlorides, ethanol or 2-propanol.

2.4 It is evident from paragraphs 2.2 and 2.3 above that the assertions relating to foam produced by an interaction between a surfactant system and an amine and to synergistic interaction between the antimicrobial active ingredient with amino groups and the further antimicrobial active ingredient merely represent desired objectives of the applicant, and do not in any way restrict the claims.

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3. *Novelty (PCT Article 33(2))*

- 3.1 D1 describes the use of mixtures of fatty alcohol ethoxylates and alkyl polyglycosides in amounts of 0.2 to 10 wt.% and 0.1 to 10 wt.%, respectively, to increase the antimicrobial effect of disinfectants (column 1, line 60 to column 2, line 20 and column 4, lines 34-39). Alkyl amines of the present formulae I and II, reaction products of a diamine of the present formula I with glutamic acid or glutamic acid derivatives of the present formula III, and quaternary ammonium compounds are provided as antimicrobial active ingredients (column 3, lines 19-67). The compositions can also contain amphoteric surfactants in amounts of up to 10 wt.% and low molecular alcohols of the present formula IV (column 5, lines 26-38 and lines 49-60; table 3, sample 7).
- 3.2 D2 concerns the use of esterquats for increasing the storage life and antimicrobial effect of concentrated disinfectants based on amidation products of N-substituted propylene diamines with 2-amino-glutaric acid esters. The concentrates additionally contain 0 to 10 wt.% of further surfactants (page 4, line 35), being preferably mixtures of fatty alcohol ethoxylates, alkyl polyglycosides and amphoteric surfactants such as betaines (page 4, lines 15-19).
- 3.3 The compositions of D1 and D2 would appear to produce foam as effectively as those according to

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the present claims. Since the applicant has drafted the present claims in a very broad manner, the amount of each component used for producing foam would appear to be of very little relevance. Therefore, the overlap of the claimed disinfectant and the aqueous disinfectants known from D1 and D2 appears to be too great for it to be possible to speak in terms of completely different compositions.

3.4 D1 and D2 would thus appear to be prejudicial to the novelty of claims 1 to 13.

4. *Inventive step (PCT Article 33(3))*

4.1 It is pointless at present to establish a detailed opinion in respect of inventive step.

4.2 The present application would appear to concern aqueous disinfectants based on aminic biocides, which disinfectants can produce foam and, with a low proportion of aminic biocides, have an adequate antimicrobial effect (see the present pages 1 and 2). This problem is solved by combining specific surfactant systems, which can produce foam in the presence of amines, with a synergistic disinfectant component that consists of a specific antimicrobial active ingredient with amino groups and a further specific antimicrobial active ingredient.

4.3 Both D1 and D2 could be considered the closest prior art. Both documents disclose aqueous disinfectants based on aminic biocides, which disinfectants contain all the constituents of the present compositions.

- 4.4 It is pointed out that, in most states and regions, strict rules are applied to the acknowledgement of an inventive step on the basis of a synergy.
- 4.5 In this regard, it is pointed out that the present examples do not constitute a comparison with the compositions described in D1 and D2. Firstly, compositions E1, E2 and E3 contain fatty alcohol ethoxylate, alkyl polyglycoside and betaine, whereas composition V1 contains no surfactant, composition V2 contains only alkyl polyglycoside, composition V3 contains only betaine and composition V4 contains only fatty alcohol ethoxylate. Secondly, test solution E1 contains no antimicrobial active ingredient with amino groups.

Miscellaneous

- 5.1 The present description does not acknowledge D1 and D2 as the closest prior art (PCT Rule 5.1(a)(ii)).
- 5.2 For the sake of completeness, it is pointed out that the reference to test solution E4 in the text on page 7 would appear to be erroneous.